

A NEW ANGELFISH OF THE GENUS *CENTROPYGE* (TELEOSTEI: POMACANTHIDAE) FROM ASCENSION ISLAND

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SYNOPSIS

A new species of *Centropyge* is described from Ascension Island ; it is the second pomacanthid to be recorded from Ascension, and the third *Centropyge* to be recorded from the tropical Atlantic ; it appears to be derived from tropical western Atlantic forms.

INTRODUCTION

TO DATE only one species of angelfish (family Pomacanthidae) has been recorded from Ascension Island in the south Atlantic, namely the widespread *Pomacanthus paru* (Bloch), known otherwise only from the tropical western Atlantic (see 'Remarks' below) ; specimens of *P. paru* from Ascension were recorded by Fowler (1919, 1936) and Fraser-Brunner (1933). We examined living juvenile and subadult specimens of *P. paru* from Ascension and various West Indian localities, and on coloration and superficial morphology, they clearly appear to be conspecific. We now report a second species of angelfish from Ascension, belonging to the genus *Centropyge*. Two species of *Centropyge* have previously been recorded from the tropical western Atlantic, *C. argi* Woods & Kanazawa, 1951 and *C. aurantonotus* Burgess, 1974 ; the present species is new to science, and is the third Atlantic species of *Centropyge*. Type specimens are deposited at the British Museum (Natural History) (BMNH) and the United States National Museum (USNM).

Centropyge resplendens n. sp.

Resplendent angelfish
(Fig. 1, Plate 1)

DESCRIPTION. Based on three fishes, 29.0–35.3 mm SL (standard length), from Ascension Island. Measurements are those of the holotype, followed in parentheses by those of the larger and smaller paratypes respectively where these differ from the holotype.

Dorsal fin rays XIV 16 (last ray divided to base) ; anal fin rays III 17 (last ray divided to near base in holotype) ; pelvic fin rays I 5 ; pectoral fin rays 16, first ray rather closely applied to second ray, all rays branched except for upper 2 and lower 2 rays ; 17 principal caudal fin rays, branched with the exception of the uppermost and lowermost rays, which do not quite reach posterior margin ; three small supplementary rays above and below principal caudal fin rays ; pored lateral line scales 34 (35, 34) ; oblique scale rows from upper end of gill opening to caudal base

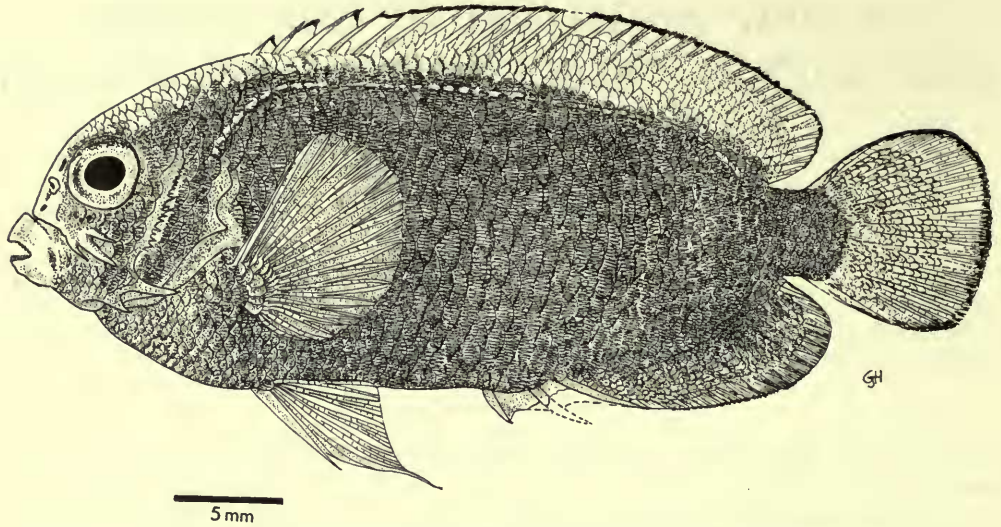


FIG. 1. Holotype of *Centropyge resplendens* n. sp. 35.3 mm SL. Ascension Island. Drawing by G. Howes.

44 (43, 45); scales above lateral line to origin of dorsal fin 6 (7, 6); scales below lateral line to origin of anal fin 14 (14, 16); circumpeduncular scales 16; gill-rakers on first arch 5 or 6 + 1 + 15 or 16 = 22, the first very small; branchiostegal rays 6; upper teeth in outer series 53 (51, 55); lower teeth in outer series 46 (54, 47).

The following measurements are presented as percentages of the SL. Total length 123.8 (123.8, 122.9); head length (measured from front of upper lip to end of opercular membrane) 30.0 (30.7, 31.3); snout length 9.9 (9.0, 10.4); orbit diameter 11.9 (12.1, 13.3); bony interorbital width 7.1 (7.6, 6.4); predorsal length 36.3 (37.2, 40.2); depth at first dorsal spine 43.1 (44.1, 47.4); body width behind gill opening 18.7 (16.9, 16.5); least depth of caudal peduncle 11.6 (11.4, 12.0); length of caudal peduncle (measured horizontally from rear base of dorsal fin to caudal base) 7.6 (8.6, 7.2); length of longest pectoral fin ray 22.1 (24.1, 24.1); length of longest pelvic fin ray 26.1 (28.6, 28.9); dorsal fin base length 65.7 (65.5, 64.3); lengths of first, second, third and fourth dorsal spines 4.5 (6.6, 5.6), 8.8 (11.4, 11.2), 11.9 (12.4, 16.9) and 11.3 (12.4, 14.5) respectively; anal fin base length 35.4 (35.9, 36.1); lengths of first, second and third anal spines - (9.7, 11.2), - (12.1, 14.1), and - (13.4, 14.5) respectively (anal spines clearly deformed in holotype, not measured).

Body deep and relatively compressed. Mouth small, terminal, the gape horizontal; maxilla reaching slightly posterior to vertical from anterior nostril; upper lip approximately as broad (vertically at front) as lower, upper lip height about a third of orbit diameter.

Teeth slender and elongate, close-set, flexible, tricuspid (the central cusp notably longer and broader than the lateral ones), in two principal rows in jaws, the teeth of the outer row largest; no teeth on roof of mouth; tongue short and broadly rounded.

Gill membranes narrowly attached to isthmus; 5 (5, 7) fleshy papillae in mid-ventral line between chin and isthmus; anterior and posterior nostrils separated by a space about a third to a half of length of posterior nostril; posterior nostril oval, slightly larger than round anterior nostril, separated from eye by a space about equal to its width; anterior nostril with a short membraneous tube with an elevated posterior flap.

A stout spine at corner of preoperculum, its length about three-quarters of orbit diameter; 20 (25, 23) small spines of somewhat irregular size along upper margin of preoperculum and one spine on lower edge of preoperculum, about a third (about a fifth in paratypes) as long as spine at angle; 2 smallish spines on interoperculum; a few small spines on suboperculum; operculum with 2 broad flat spines, one near upper end of gill opening and the other at about the level of the lower edge of eye; preorbital with 3 (2, 2) spines along ventral edge.

Scales coarsely ctenoid (up to about 20 ctenii on margins), the exposed portion ridged; from fourth dorsal spine onwards, dorsal fin with scaly base, scalation extending over three-quarters if not virtually all of fin on median and posterior portion; anal fin with scaly base, scalation extending over three-quarters or more of fin on median and posterior portion; scales on basal half of caudal fin, with small scales extending out on fin rays for about a third more of length of fin; pectoral fins scaled only basally; pelvic fins with small scales extending out on fin rays for up to three-quarters of length of spine. Head almost completely scaled.

Lateral line steeply arched anteriorly, ending below posterior part of dorsal fin.

Origin of dorsal fin slightly posterior to vertical through upper angle of gill opening; membranes of anterior portion of dorsal fin, between first and second, second and third, and third and fourth spines, deeply incised, while those between posterior spines and rays only slightly if at all indented. Membranes of anterior portion of anal fin, between first and second, and second and third spines deeply incised, while those between posterior rays not indented. Caudal fin nearly truncate. Pectoral fins more or less rounded, not reaching to level of origin of anal fin. Origin of pelvic fins below base of pectoral fins; first pelvic soft ray prolonged, reaching spinous part of anal fin base, about a third as long again as pelvic spine.

Coloration: In life, head and body bright to dark blue; snout bright yellow-orange; chest with orange tinges; bright yellow-orange to orange stripe from snout between eyes along dorsal body contour onto upper part of caudal peduncle. Orbit ringed with bright blue; iris orange. Dorsal fin bright yellow-orange to orange with dark blue distal margin; anal fin bright to dark blue, becoming bluish orange distally and posteriorly, with bright blue distal margin; pelvic fins dusky bluish orange with bright blue anterior margin; pectoral fins hyaline; caudal fin bright yellow-orange to orange with dark blue distal margin.

In alcohol, bright to dark blue markings become brown to dark brown; yellow-orange to orange markings become beige on body, beige to hyaline on fins.

REMARKS. As was pointed out by Randall & Caldwell (1973), 'All of the species of *Centropyge* are very similar in body form and counts, but they are distinctive in colour pattern'. The colour pattern of *Centropyge resplendens* (see above and Plate 1)

is quite distinctive and separates it clearly from all known species. As might be expected, *Centropyge resplendens* is closest to *C. argi* Woods & Kanazawa and to *C. aurantonotus* Burgess, both restricted to the tropical western Atlantic. *Centropyge argi* has a dark blue body, but only the head and chest are yellow to orange (see colour illustrations in Burgess, 1974, and Böhlke & Chaplin, 1968). *Centropyge aurantonotus* also has a dark blue body but with orange head, chest, dorsal body contour and dorsal fin (see colour illustration in Burgess, 1974). *Centropyge aurantonotus* differs from *C. resplendens* in the coloration of the caudal fin and of the dorsal margin of the caudal peduncle, which are dark blue in *C. aurantonotus* but yellow-orange to orange in *C. resplendens*; also, the head of *C. aurantonotus* is orange, while that of *C. resplendens* is bright to dark blue, with only the snout and dorsal contour yellow-orange to orange.

Briggs (1974) stated that much of Ascension Island's shore fauna was apparently derived from the western Atlantic, and that some justification existed for placing Ascension in the West Indian Province of the Western Atlantic Region. Only two Pomacanthidae are known from Ascension: *Centropyge resplendens*, which is closely related to tropical western Atlantic forms (no *Centropyge* is known as yet from the eastern Atlantic), and *Pomacanthus paru*, which is otherwise recorded only from the tropical western Atlantic. (The only record of *P. paru* from the eastern Atlantic is that of Fowler, 1936, who considered that *Chaetodon leachii* Bowdich from Madeira was probably *P. paru*; having read the original description of *C. leachii*, we find it most unlikely that *C. leachii* is synonymous with *P. paru*.) The derivation of Ascension Pomacanthidae appears *prima facie* to be in accordance with Briggs' statement, although it should be emphasized that the pomacanthid fauna of the eastern Atlantic is still relatively poorly known, making genuine comparison difficult.

ETYMOLOGY. The name *resplendens* is derived from the Latin for resplendent, and refers to the beautiful coloration of this species.

MATERIAL EXAMINED. (a) *Holotype*, 35.3 mm SL, among coral boulders at 20 m, Ascension Island, coll. G. Earnshaw in December 1974; BMNH 1974.12.20.1. (b) *Paratype*, 29.0 mm SL, coll. with (a); BMNH 1974.12.20.2. (c) *Paratype*, 24.9 mm SL, coll. with (a); USNM.

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PLATE I

Holotype of *Centropyge resplendens* n. sp. 35.3 mm SL. Ascension Island.
Aquarium photograph by R. Lubbock.

